

## AAN 74<sup>th</sup> ANNUAL MEETING ABSTRACT

Media Contacts:

Renee Tessman, [rtessman@aan.com](mailto:rtessman@aan.com), (612) 928-6137

Michelle Uher, [muher@aan.com](mailto:muher@aan.com), (612) 928-6120

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**Abstract Title:** Pre-pregnancy migraine and risk of adverse pregnancy outcomes

**Press Release Title:** Is Migraine Tied to Complications in Pregnancy?

**Authors:** Alexandra Purdue-Smithe<sup>1</sup>, Jennifer Stuart<sup>1</sup>, Leslie Farland<sup>4</sup>, Jae Hee Kang<sup>2</sup>, Rebecca Burch<sup>3</sup>, Janet Rich-Edwards<sup>1</sup>, Kathryn Rexrode<sup>1</sup>

<sup>1</sup>Division of Women's Health, <sup>2</sup>Channing Division of Network Medicine, <sup>3</sup>Department of Neurology, Brigham and Women's Hospital and Harvard Medical School, <sup>4</sup>Department of Epidemiology and Biostatistics, University of Arizona

**Objective:** To longitudinally examine associations between pre-pregnancy migraine, aura phenotype, and risk of adverse pregnancy outcomes.

**Background:** Migraine is a highly prevalent (10-20%) neurovascular disorder that is two to three times more common in reproductive-age women than similarly aged men. Migraine and adverse pregnancy outcomes share common pathophysiology, and both are associated with coronary heart disease and stroke. Findings of some case-control and retrospective studies suggest that migraine and adverse pregnancy outcomes may be linked, but large prospective studies are lacking. Further, prior prospective studies lacked information on aura, the migraine phenotype most strongly associated with vascular risk.

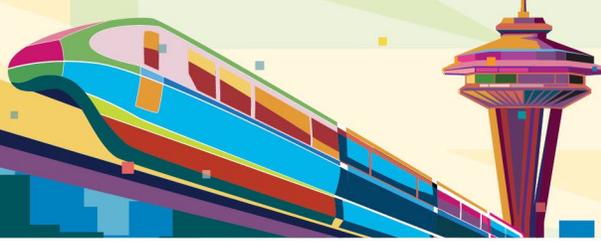
**Design/Methods:** We estimated associations of self-reported physician-diagnosed pre-pregnancy migraine with preterm delivery (<37 weeks), gestational diabetes mellitus (GDM), gestational hypertension, preeclampsia, and low birthweight (<5.5 lbs) among incident pregnancies in the longitudinal Nurses' Health Study 2 (n=30,555; 1989-2009). Relative risks (RR) and 95% confidence intervals (CI) were estimated using log-binomial regression that accounted for multiple pregnancies per participant.

**Results:** In models adjusted for age, adiposity, and other behavioral and health factors, women with pre-pregnancy migraine (11%) exhibited higher risks of preterm delivery (RR=1.17; 95% CI=1.05-1.30), gestational hypertension (RR=1.28; 95% CI=1.11-1.48), and preeclampsia (RR=1.40; 95% CI=1.19-1.65) compared to women without pre-pregnancy migraine. Pre-pregnancy migraine was not associated with low birthweight (RR=0.99; 95% CI=0.85-1.16) or GDM (RR=1.05; 95% CI=0.91-1.22). Compared to women without pre-pregnancy migraine, risk of preeclampsia was somewhat higher among women with migraine with aura (RR=1.51; 95% CI=1.22-1.88) than those with migraine without aura (RR=1.29; 95% CI=1.04-1.61). Risks of other adverse pregnancy outcomes did not differ by aura phenotype.

**Conclusions:** In this large, prospective study, pre-pregnancy migraine was associated with higher risks of preterm delivery, gestational hypertension, and preeclampsia. Migraine with aura was associated with a somewhat higher risk of preeclampsia. Migraine history and phenotype may be important considerations in obstetric risk assessment and management.

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